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08/506,032

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08/506,032 07/24/95 FOREST

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EXAMINER

E6M1/0224

DONALD K FOREST
209 CROYDON AVE
ROCKVILLE MD 20850-4145

| ART UNIT | PAPER NUMBER |
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2609

19

DATE MAILED: 02/24/97

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☒ Responsive to communication filed on 11/21/96 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), 0 days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-163 are pending in the application.
Of the above, claims 2-5, 7-72, 74-79, 81-84, 87-89, 92, 93, 95-97, 99, 100, 102, 103, 105, 107, 108, 111, 158 are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1, 6, 73, 80, 85, 86, 90, 91, 94, 98, 101, 104, 106, 109, 110, 112, 113, 157, 159-163 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☒ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

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1. Figures 1-13 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

It is required that legends be provided for all symbolically illustrated structure in the drawings (Figs. 14-16). See 37 CFR 1.84(g) Applicant is cautioned to maintain correspondence with the specification and to avoid the introduction of new matter. Correction is required.

2. It is noted the claims 92 and 100 were not considered by the examiner since claims 92 and 100 are not drawn to an elected species (i.e., Species VI which is direct to a speech synthesis embodiment). It appears that was a typo error had occurred in the Office Action mailed on 5/6/96. So, on page 2, paragraph # 2, claims 92 and 100 should be included as being withdrawn from further consideration by the examiner. In addition, since the election was make FINAL in the Office Action mailed on 5/6/96, even though newly added claim 111 contains the limitation of speech synthesis and is depended from claim 100, claim 111 is also withdrawn and will not be considered by the examiner.

Newly added claims 107, 108, 158 will not be considered since claims 107, 108, 158 do not include the speech synthesis embodiment which was elected by applicant to a single species. So, claims

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107, 108, 158 are withdrawn from consideration by the examiner.

Claims 2-5, 7-72, 74-79, 81-84, 87-89, 92, 93, 95-97, 99, 100, 102, 103, 105, 107, 108, 111, and 158 are withdrawn from further consideration by the examiner.

3. Claims 1, 6, 73, 80, 85, 86, 90, 91, 94, 98, 101, 104, 106, 109, 110, 112, 113-157, 159-163 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 1, "the particular selectable region intersected by a plurality of the successive locations" is not clear. It is not clear as to how the particular selectable region is intersected by a plurality of the successive locations since the particular selectable region is not moveable. It is also not clear as to what the particular selectable region intersected with. The following language --the particular selectable region intersected by a plurality of the successive locations indicated by the movement related signal-- is suggested to clarify the confusion.

As to claim 73, "at least one previously selected sequence" is not clear since no previously selected sequence has been defined.

As to claims 85, 94, 106, it contain the same problem as claim 1. In addition, in claims 85 and 94, "the durations" has not been defined.

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As to claims 73, 91, 94, 98, 101, 106, 114, 134, 147, 155, 159-163, the recitations "a sequence of one or more words", "a sequence of one or more letters", and "a sequence of one or more characters" are confusing since when the claims are interpreted with the "one" limitation, it will not contain "a sequence", "words", "letters" or "characters".

As to claim 80, "a sequence of one or more characters" renders the claim confusing. Furthermore, "moving at least part of a cursor" is confusing since the cursor is a unique object, how can a part of a cursor be moved? And, "the durations" has not been defined.

4. Claims 1, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker (US. PAT. NO. 4,586,035 hereinafter Baker) in view of Gunderson et al (US. PAT. NO. 4,591,841 hereinafter Gunderson).

As to claims 1, 6, the patent to Baker teaches (col. 5, lines 3-25) a periphery 41 defining a window 42 (display area or a region as claimed); menu items 43-50 are around periphery 41 (these items are associated with portions 51-58 of the periphery) and each menu item respectively is associated with a displayed menu option (col. 5, lines 20-21). Baker also discloses movement related signal receiving means (control a cursor movement at the different locations) and to select the menu option associated with the

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particular selectable region by intersecting the cursor and the selectable region. Baker differs from the claim in not disclosing the selection means is responsive to a dwell event. However, Baker suggests "The appropriate action may be selected from the menu by activating one of the listed functions in any conventional way" (col. 4, lines 15-19). Gunderson teaches a conventional way to select a particular selectable region in response to a dwell event (col. 3, lines 3-30, col. 5, lines 57-65). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the selection means of Baker to select the menu option in response to a dwell event as taught by Gunderson so as to provide an input device which can be controlled by handicapped individuals whose movements are limited.

5. Claims 98, 109, 110, 114-133, 155-157, 159, 160, 162 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker and Gunderson, further in view of Callahan ("An Empirical Comparison of Pie Vs linear menus") and Golding ("Audio Response Terminal").

As to claim 98, Baker as modified by Gunderson does not explicitly disclose the particular selectable region represents a word or a sequence of words. However, second column, lines 1-4 of page 96 of Callahan teaches menu items can be grouping of items, time, direction, numbers, words, etc. Thus, it would have been

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obvious to one having ordinary skill in the art at the time the invention was made to modify the menu items in Baker as modified by Gunderson to be letters, numbers, or words as taught by Callahan since it depends on the particular applications running in the computer. Baker as modified by Gunderson and Callahan does not disclose the device comprising a voice output for speaking the words responsive to the selection means. However, Golding had explicitly suggested the use of a speech synthesizer as an addition to a visual output to reproduce words, phrases, sentences to the user (page 5634). Thus, it would have been further obvious to one having ordinary skill in the art at the time the invention was made to modify Baker as modified by Gunderson and Callahan to have a voice output as taught by Golding so as to allow the operator options of using a visual image or audible messages as feedbacks to improve interaction with the system for both handicapped and non-handicapped individuals.

As to claims 114, 155, it is noted Baker teaches the selectable region of the menu items are at the outside of the display area, and Callahan teaches a plurality of selectable regions of the menu items are inside the display area and Fig. 2 of Callahan also show that the selectable region is adjacent the periphery of the working region (the central portion). So, the window (42) of Baker as modified Callahan would have selectable regions both outside and inside the display area (42). The

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portions 51-58 in Fig. 8 of Baker as modified above reads on the external boundary of the selectable regions as claimed, and menu items 43-50 in Fig. 8 of Baker as modified above reads on the activation area extending beyond the external boundary (it is noted that claim recites alternate limitations: "a confiner... or an activation area ..". and the claim has been interpreted by the Examiner in the second alternative limitation).

As to claims 109, 110, 115-133, 156, 157, the combination of Baker, Gunderson, Callahan and Golding teaches the claimed limitation.

As to claims 159, 160, 162, the menu items 43-50 in Fig. 8 of Baker reads on the a user activatable switch as claimed.

6. Claims 94, 106, 113, 163 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker, Gunderson, Callahan and Golding, further in view of Lazzaro ("Computers for the Disabled").

As to claim 94, although Baker as modified by Gunderson, Callahan and Golding teach a cursor control system for handicapped people, the combination does not disclose a voice output device for a user having impaired motor control. However, Lazzaro on page 60 explicitly states a speech-synthesis system has been employed to help blind people to read and nonverbal people to speak. Thus, it would have been further obvious to one having ordinary skill in the art at the time the invention was made to modify Baker as modified

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by Gunderson, Callahan and Golding to have a voice output system as taught by Lazzaro so as to help blind people to read and nonverbal people to speak.

As to claims 106, 113, note the discussion of the combination of Baker, Gunderson, Callahan, Golding and Lazzaro above. It is also noted that Baker teaches the subregion of the selectable regions are outside and adjacent to the display area, and Callahan teaches a plurality of subregions are on the display area. Therefore, the combination of Baker, Gunderson, Callahan, Golding and Lazzaro would also include the claimed limitation.

As to claim 163, the combination of Baker, Gunderson, Callahan, Golding and Lazzaro teaches the claimed limitation.

7. Claims 147-154, 161 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker, Gunderson, Callahan and Golding, further in view of Atkinson (US. PAT. NO. 4,931,783).

As to claims 147 and 161, Baker as modified by Gunderson, Callahan and Golding does not explicitly disclose a menu option associated with a plurality of submenu. However, it is well known in the art that a menu option is associated with a plurality of submenus (e.g., see Fig. 1 of Atkinson, EDIT is a menu, and UNDO, CUT, etc, are the submenus of the EDIT menu). Thus, it would have been further obvious to one having ordinary skill in the art at the time the invention was made to modify the menu options of Baker as

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modified by Gunderson, Callahan and Golding to having submenus as taught by Atkinson so as to provide additional selected functions to the user.

As to claims 148-154, the combination of Baker, Gunderson, Callahan, Golding and Atkinson teaches the limitation as claimed.

8. Claims 90, 91, 134-146 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker, Gunderson, Callahan and Golding, and further in view of Choi (US. PAT. NO. 5,285,265).

As to claims 90, 91, 134, the combination of Baker, Gunderson, Callahan and Golding discloses a system comprising a surface having a selectable region associated with a sequence of words, a selection means in response to dwell events, and a voice output for speaking the selected sequence of words as claimed. The combination of Baker, Gunderson, Callahan and Golding does not disclose an indicator for indicating the time difference between the cursor at a second location and the cursor at a first location. However, Choi discloses a device comprising an indicator (level meter inside the sub-screen as shown in Fig. 3) which shows the remaining time before an activation signal (selection) is optionally applied (col. 2, lines 60-64, col. 3, lines 40-42, 48-54). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the

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combination of Baker, Gunderson, Callahan and Golding to have an indicator as taught by Choi so as to provide the user with an opportunity to cancel or change the selected region without any interruption.

As to claims 135-146, the combination of Baker, Gunderson, Callahan, Golding and Choi teaches the claimed limitation.

9. Claims 73, 80, 85, 86, 101, 104, 112 are rejected under 35 U.S.C. 103(a) as being unpatentable over Callahan in view of Golding and Lazzaro.

As to claim 73, Callahan discloses a display device comprising a display (e.g., Fig. 2 in page 95) for displaying a plurality of selectable regions (e.g., LOGIN, SHRINK, etc.) within a polygon on the display, and the plurality of selectable regions having a sequence of letters and at least partially circumscribing a region on the display. Callahan also discloses control means to select a selectable region in responsive to a succession of selection events (the succession of selection events read on moving the cursor to a selectable region, and then clicking on the mouse button to select the selectable region. Callahan does not the device comprising a voice output for a user having impaired speech for speaking the words responsive to the selection means. However, Golding had explicitly suggested the use of a speech synthesizer as an addition

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to a visual output. Page 60 of Lazzaro explicitly states a speech-synthesis system has been employed to help blind people to read and nonverbal people to speak. Thus, it would have been further obvious to one having ordinary skill in the art at the time the invention was made to modify Callahan to have a voice output system as taught by Golding and Lazzaro so as to allow the operator options of using a visual image output or audible messages output which help blind people to read and nonverbal people to speak.

As to claim 104, Lazzaro teaches the cursor movement is responsive to the head movement of the user (see page 62 of Lazzaro).

As to claim 112, Callahan teaches to control the cursor moving in the polygon.

As to claims 85, 86, 101, Callahan discloses a display device comprising a SURFACE (e.g., Fig. 2 in page 95) having a plurality of selectable regions (e.g., LOGIN, SHRINK, etc.) on the surface, and the plurality of selectable regions at least partially circumscribing a region on the display. Callahan also discloses control means to select a selectable region responsive to a sensor signal (which read on the click on the mouse button to select the selectable region). Lazzaro discloses to select a selectable region in response to a dwell events and a pointer responsive to the movement of a body member of a user (see page 62 of Lazzaro),

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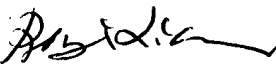
Golding teaches to provide a voice output device for speaking the sequence of the words.

As to claim 80, note the discussion of claim 73 above. Lazzaro also disclose to select a selectable region in response to a dwell events (see page 62).

10. Applicant's arguments with respect to claims 1, 6, 73, 80, 85, 86, 90, 91, 94, 98, 101, 104, 106, 109, 110, 112, 113-157, 159-163 have been considered but are moot in view of the new ground(s) of rejection.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina Liang whose telephone number is (703) 305-4719. The examiner can normally be reached on Monday-Thursday from 7AM to 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (703) 305-4709. The fax phone number for this Group is (703) 308-6606.


REGINA LIANG
PATENT EXAMINER
ART UNIT 2609

RL